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EXAMINER

BERMAN, SUSAN W

ART UNIT PAPER NUMBER

1711

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/966,269

Applicant(s)

SASAKI ET AL.

Examiner

Susan W. Berman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 08/544,408.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Response to Amendments

Applicant has submitted amendments to the specification to replace the lines that were unclear because of hole punches at the top margins of the pages. The requirement to submit a substitute specification excluding the claims pursuant to 37 CFR 1.125(a) is hereby withdrawn.

The amendments to claims 19-21 have corrected the “⁰C” notations and have replaced “the mixture” in claim 19 with “said low molecular weight compound”. However, the amendments do not address the issue of the use of the phrase “higher than at least...” in claims 19 and 20.

Response to Arguments

Applicant argues that there is no suggestion to combine the teachings of Coady et al and Newell et al. This argument is not persuasive. The compositions disclosed by Coady et al and Newell et al are considered to be analogous art because the components of the disclosed compositions are analogous acrylated urethane/ acrylate monomer compositions disclosed to be radiation curable. The difference is that Coady et al disclose UV irradiation, while Newell et al disclose UV irradiation or electron beam irradiation for curing the compositions. It is the examiner's position that one of ordinary skill in the art at the time of the invention would have been motivated to employ electron beam irradiation in the absence of a photoinitiator, as taught by Newell et al, instead of UV irradiation in the presence of a photoinitiator, as taught by Coady et al, by a reasonable expectation that the compositions would cure successfully by irradiation with electron beam since compositions comprising analogous components are disclosed to be curable by electron beam irradiation or UV irradiation by Newell et al. Since the process steps taught by combination of the teachings of the references are as instantly claimed and the compositions employed are also the same, cured films produced therefrom would be expected to have the same shape memorizing properties, in the absence of evidence to the contrary. In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized

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that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Applicant argues that Hodakowski does not mention that the disclosed process results in a cured film having the memory of a specified shape. This argument is not persuasive for the following reasons. The rejection of the claims is based on the disclosure of Hodakowski of the process steps set forth in the instant claims employed using compositions comprising components within the definitions set forth in the instant claims. Since the process steps are as instantly claimed and the compositions employed are also the same, cured films produced therefrom would be expected to have the same shape memorizing properties, in the absence of evidence to the contrary.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 19, line 8, the phrase "higher than at least 90 °C" is indefinite because it is not clear whether the Tg is "at least 90 °C" or "higher than 90 °C". In claim 20, line 8, the phrase "higher than 90 °C" is not supported by the disclosure because on page 2 the instant specification sets forth a Tg "of at least 90 °C".

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Coady et al (4,608,409) in view of Newell et al (4,508,916). Coady et al disclose a process of coating an optical glass fiber with a composition and curing the composition with ultraviolet light. The Example teaches coating a glass plate, curing the coating composition and stripping the cured film from the glass plate. The composition employed comprises a polyacrylate-terminated polyurethane mixed with liquid acrylate-functional materials. High Tg acrylates, such as N-vinylpyrrolidone, isobornyl acrylate, dicyclopentenyl acrylate and acrylic acid, may be added (column 5, lines 13-22). A low Tg acrylate is added to confer softness and to adjust the viscosity of the composition. A linear aliphatic diacrylate may also be added. Coady et al do not mention the Tg of the urethane acrylate but do discuss the tensile modulus of the cured films, which is closely related to Tg, as stated in the instant specification on page 10. Thus, it is believed that the polyacrylate-terminated urethanes disclosed would have a Tg higher than 90 °C. See Coady et al, column 6, lines 34-42. Coady et al do not mention whether the film produced would have the memory of

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a specified shape. Newell et al disclose analogous compositions comprising urethane acrylates and diluent monomers (column 10, lines 29-60). The urethane acrylates are curable by UV radiation or by electron beam irradiation in the absence of an initiator (column 1, lines 38-49).

It would have been obvious to one skilled in the art to omit the photoinitiator from the compositions disclosed by Coady et al and to use electron beam irradiation instead of UV irradiation to cure the compositions, as taught by Newell et al for the curing of analogous acrylated urethane/ acrylate monomer compositions. One of ordinary skill in the art at the time of the invention would have been motivated to employ electron beam irradiation instead of UV irradiation by a reasonable expectation that the compositions would cure successfully by irradiation with electron beam since the components of the disclosed compositions are known to be curable by electron beam irradiation.

Coady et al disclose a process of coating a shaped material (optical glass fiber or glass plate) with a urethane acrylate/acrylate monomer composition, curing the composition using UV light and stripping the cured film from the shaped material it was coated onto. The glass plate or glass fiber disclosed by Coady et al meets the requirement for a "shaped part" in the instant claims. The composition applied and cured film obtained would be expected to take the shape of the plate or fiber. With respect to the rejection set forth above of the instant claims, it is noted that the phrase "for making a cured film having the memory of a specified shape" is a statement of an intended future property of the product resulting from the process set forth in the claims. Since the compositions described by Coady et al comprise components within the definitions of the compositions set forth in the instant claims, the cured compositions disclosed by Coady et al would be expected to have the same property of having "memory of a specified shape", as set forth in the instant claims. There is no comparative showing of record that establishes that the process disclosed by Coady et al in combination with Newell et al does not provide shape memory to the products obtained and that the process employed by applicant does. In the absence of such a showing, it is the examiner's position that the process steps and compositions taught in the cited references would be

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expected to provide shape memory properties. Note In re Best, 562 F. 2d775, 195 USPQ 433 (CCPA 1977). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. Furthermore, applicant, on page 4, lines 3-10, of the instant specification sets forth that ultraviolet curing in the presence of photosensitizers, as well as electron beam curing, also results in curing the disclosed resin compositions and providing shape memorizing properties.

Claims 19-21 are rejected under 35 U.S.C. 102(b) as anticipated by or, alternatively, under 35 U.S.C. 103(a) as being unpatentable over Hodakowski (4,116,786). Hodakowski discloses a process of applying a composition to a substrate, curing the composition by ionizing or non-ionizing radiation and removing the cured composition from the substrate. See column 6, lines 52-55, column 7, line 56, to column 8, line 8, and the Examples. The substrate has a shape and is, therefore, a "shaped part", as required in the instant claims. The composition comprises an acrylate-capped polyether urethane, a low molecular weight polyfunctional acrylate and a monofunctional acrylate. The polyfunctional acrylate disclosed by Hodakowski can be an adduct of isophorone diisocyanate or toluene diisocyanate and hydroxyethyl acrylate (column 4, lines 61-68), as set forth in instant claim 21. The Tg value of the acrylated polyether urethane is not mentioned.

The instantly claimed process is anticipated by the disclosure of Hodakowski wherein the urethane acrylate oligomer disclosed by Hodakowski has a Tg value lower than 50 °C after homopolymerization and the low molecular weight compound, such as cyclohexyl acrylate or isobornyl acrylate, has a Tg value higher than or at least 90 °C after homopolymerization and the cured film produced from the composition has the memory of a specified shape. With respect to the rejection set forth above of the instant claims, it is noted that the phrase "for making a cured film having the memory of a specified shape" is a statement of an intended future property of the product resulting from the

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process set forth in the claims. Since the compositions described by Hodakowski comprise components within the definitions of the compositions set forth in the instant claims, the cured compositions disclosed by Hodakowski obtained by the process steps disclosed by Hodakowski and corresponding to those set forth in the instant claims would be expected to have the same property of having “memory of a specified shape”, as set forth in the instant claims. There is no comparative showing of record that establishes that the process disclosed by Hodakowski et al does not provide shape memory to the products obtained and that the process employed by applicant does. In the absence of such a showing, it is the examiner’s position that the process steps and compositions taught in the cited references would be expected to provide shape memory properties.

The burden is hereby shifted to applicant to establish by effective argument and/or objective evidence that the prior art product(s) or process(es) do not necessarily possess the characteristics of the claimed products or processes. Note In re Fitzgerald, 205 USPQ 594 (CCPA 1980). The reference discloses all the limitations of the claim(s) except a property or function and the examiner cannot determine whether or not the reference inherently possesses properties or functions which anticipate the claimed invention. See MPEP 2112-2112.02. Note In re Spada, 911 F. 2d 705, 709, 15 UPQ2d 1655, 1658 (Fed. Cir. 1990), “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not”.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH**

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shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is ????.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
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SB
7/10/2005